

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) A gas sensor module that is coupled to a gas conduit of a medical gas system in a healthcare facility and that operates to sense whether a type of gas in the gas conduit is a proper type of gas.
2. (original) The gas sensor module of claim 1, wherein the module is located remotely from a set of source equipment of the medical gas system.
3. (original) The gas sensor module of claim 1, wherein the module is mounted to the gas conduit behind a wall of the healthcare facility.
4. (original) The gas sensor module of claim 1, wherein the module is mounted to the gas conduit above a ceiling of the healthcare facility.
5. (original) The gas sensor module of claim 1, wherein the module is mounted to the gas conduit beneath a floor of the healthcare facility.
6. (original) The gas sensor module of claim 1, wherein the module comprises a circuit including a gas sensor having a ceramic zirconia electrolyte material.
7. (original) The gas sensor module of claim 1, wherein the module comprises a circuit including a gas sensor that senses a concentration of the gas based on an amount of time that ultrasonic sound waves propagate through a cavity containing a sample of gas from the gas conduit.
8. (original) The gas sensor module of claim 1, wherein a sample of gas from the gas conduit flows through the module and exhausts to ambient atmosphere.

9. (original) The gas sensor module of claim 1, wherein the module communicates an alarm signal to an alarm controller of a medical gas alarm system that monitors one or more conditions of the medical gas system.

10. (original) The gas sensor module of claim 1, wherein the module activates an audible alarm when the gas type in the gas conduit is an improper type of gas.

11. (original) A gas sensor module that is configured to couple to a service outlet of a medical gas system in a healthcare facility and that operates to sense whether a type of gas extant in a gas conduit coupled to the service outlet is a proper type of gas.

12. (original) The gas sensor module of claim 11, wherein the module has a housing and a barrel extending from the housing, the barrel is configured for receipt in a port of the service outlet, and receipt of the barrel in the port opens a valve assembly of the service outlet to permit gas from the gas conduit to flow into the housing through the barrel.

13. (original) The gas sensor module of claim 12, further comprising keys extending from the housing, the keys being configured for receipt in key-receiving apertures formed in the service outlet, and the valve assembly remaining closed during insertion of the barrel into the port of the service outlet until the keys are received in the key-receiving apertures.

14. (original) The gas sensor module of claim 11, wherein gas from the gas conduit flows into the module through the service outlet and then exhausts to ambient atmosphere after flowing into contact with a gas sensor of the module.

15. (original) The gas sensor module of claim 11, wherein the module comprises a housing, a circuit, and a test button that is coupled to the housing and that is pressed to

test the circuit.

16. (original) The gas sensor module of claim 11, wherein the module comprises a circuit including a light emitting diode that provides a visual indicator of an alarm condition that occurs when the type of gas in the gas conduit is an improper type of gas.

17. (original) The gas sensor module of claim 11, wherein the module is configured to provide a feed-through service outlet to which an equipment connector is able to couple so that at least some of the gas flowing from the gas conduit into the module from the service outlet is thereafter able to flow out of the module and into the connector coupled to the module.

18. (original) The gas sensor module of claim 17, wherein the module has a housing and a first barrel extending from the housing, the first barrel is configured for receipt in a first port of the service outlet, and receipt of the first barrel in the first port opens a first valve assembly of the service outlet to permit gas from the gas conduit to flow into the housing through the first barrel.

19. (original) The gas sensor module of claim 18, wherein the feed-through service outlet comprises a second port formed in the housing, the connector has a second barrel configured for receipt in the second port, and receipt of the second barrel in the second port opens a second valve assembly that is situated in the housing of the module to permit gas from the housing to flow into the connector through the second barrel.

20. (original) The gas sensor module of claim 19, wherein the housing of the module is configured for keyed coupling to the service outlet and the connector is configured for keyed coupling to the housing of the module.

21. (original) The gas sensor module of claim 11, wherein the module is configured

for keyed coupling to the service outlet.

22. (original) An integrated service outlet and gas sensor module coupled to a gas conduit of a medical gas system in a healthcare facility, the module being coupleable to a connector of a piece of equipment to provide gas from the gas conduit to the piece of equipment, and the module having circuitry that is operable to sense whether the gas from the gas conduit is a proper type of gas.

23. (original) The integrated service outlet and gas sensor module of claim 22, wherein the module comprises a housing having a port formed therein, the port is configured for receipt of a barrel of the connector, and receipt of the barrel of the connector in the port opens a valve assembly of the module to permit gas from the gas conduit to flow into the connector through the module.

24. (original) The integrated service outlet and gas sensor module of claim 23, wherein the housing has one or more key-receiving apertures formed therein and the one or more key-receiving apertures are configured for receipt of respective keys of the connector, and the valve assembly remains closed during insertion of the barrel into the port of the housing until the one or more keys are received in the respective key-receiving apertures.

25. (original) The integrated service outlet and gas sensor module of claim 22, wherein the module is configured for keyed coupling of the connector.

26. (original) The integrated service outlet and gas sensor module of claim 22, wherein the circuitry includes a gas sensor and the module includes a diverter that diverts some of the gas from the gas conduit to flow through the gas sensor and then exhaust to ambient atmosphere.

27. (original) The integrated service outlet and gas sensor module of claim 22, further comprising a test button that is pressed to test the circuitry.

28. (original) The integrated service outlet and gas sensor module of claim 22, wherein the circuitry includes a light emitting diode that provides a visual indicator of an alarm condition that occurs when the type of gas in the gas conduit is an improper type of gas.

29. (original) An apparatus for monitoring a gas extant in a gas pipe of a healthcare facility, the apparatus comprising a housing; a sensor carried by the housing and coupled pneumatically to the gas pipe, the sensor producing a sensor signal indicative of the type of gas extant in the gas pipe; and a circuit carried by the housing and coupled electrically to the sensor, the circuit processing the sensor signal and producing an alarm signal if the gas extant in the gas pipe is an improper type of gas.

30. (original) An apparatus for monitoring a gas that is available for delivery through a gas service outlet which is accessible in a room of a healthcare facility, the apparatus comprising a gas sensor; a circuit coupled to the gas sensor and operable to monitor the type of gas to which the gas sensor is exposed; and a housing carrying the circuit and the gas sensor, the housing being adapted to be coupled to the service outlet.

31. (original) The apparatus of claim 30, wherein the housing is adapted to be coupled to the medical equipment.

32. (original) An apparatus for dispensing to healthcare equipment a gas from a gas pipe of a medical gas system of a healthcare facility and for monitoring the gas dispensed, the apparatus comprising a gas sensor, a circuit coupled to the gas sensor, a housing carrying the circuit and the gas sensor, the housing being coupled to the gas pipe,

the housing being configured for coupling of healthcare equipment thereto to receive gas from the gas pipe that passes through the housing, a sample of the gas from the gas pipe being diverted to the gas sensor so that the circuit is able to monitor the type of gas diverted to the gas sensor.

33. (original) A gas sensor module that is adapted to be coupled to a line of a medical gas system that is designated for delivery of a type of gas, the gas sensor module being adapted to monitor the type of gas flowing through the line, to determine whether the type of gas flowing through the line is the proper gas type, and to generate an alarm signal if the gas type is improper.

34. (original) A gas alert for a medical gas system, the gas alert comprising a main gas alarm module coupleable to a line adjacent a bulk supply of medical gas in a healthcare facility, the main gas alarm being adapted to sense whether the type of gas flowing through the line is the proper gas type, and at least one remote gas alarm module that is located remotely from the main gas alarm module and that receives communications from the main gas alarm module indicative of an alarm condition sensed by the main gas alarm module.

35.-66. (canceled)

67. (new) A system for use in a medical facility comprising a remote alarm module configured to generate a first data signal, a main alarm controller coupled to the remote alarm module and configured to receive the first data signal from the remote alarm module and to generate a second data signal in response thereto, and

a master alarm controller coupled to the main alarm controller and configured to receive the second data signal from the main alarm controller and to provide a third data signal in response thereto.

68. (new) The system of claim 67, wherein the first, second, and third data signals are substantially similar.

69. (new) The system of claim 67, wherein the system further comprises a network, the master alarm controller is coupled to the network, and the network is configured to receive the third data signal from the master alarm controller.

70. (new) The system of claim 67, wherein the medical facility includes a network and the master alarm controller is configured to provide the third data signal to the network.

71. (new) The system of claim 67, wherein the first data signal is indicative of at least one of an alarm condition, a gas type, gas concentration, gas flow rate, serial number, software data, characteristic data, and status data.

72. (new) The system of claim 67, wherein the remote alarm module is a first remote alarm module and further comprising a second remote alarm module configured to generate a fourth data signal, the main alarm controller being configured to receive the fourth data signal from the second remote alarm module.

73. (new) The system of claim 72, wherein the second data signal is further in response to the fourth data signal.

74. (new) The system of claim 72, wherein the main alarm controller generates a fifth data signal in response to the fourth data signal, and the master alarm controller is

configured to receive the fifth data signal from the main alarm controller and to provide a sixth data signal in response thereto.

75. (new) The system of claim 74, wherein the system further comprises a network, the master alarm controller is coupled to the network, and the network is configured to receive both of the third data signal and the sixth data signal from the master alarm controller.

76. (new) The system of claim 74, wherein the medical facility includes a network and the master alarm controller is configured to provide both the third data signal and the sixth data signal to the network.